



## **JOB SPECIFICATION**

### **TRAFFIC ENGINEER**

#### **General Purpose**

Under direction, plan, direct, assign and supervise traffic control projects and personnel involved in traffic engineering signal analysis, design, and implementation.

#### **Typical Duties:**

Direct staff and/or project management related to the design of traffic signal systems, roadway lighting systems, work zone traffic control layouts and permanent marking and signing plans. Plan, evaluate and manage Engineering Traffic functions, signal studies, design and implementation. Involves: Serve as project manager on traffic engineering related duties on large scale projects and have the ability to resolve problems of greater scope and complexity. Prepare and establish short and long-range traffic planning initiatives. Oversee and manage traffic impact studies, traffic operation studies and other transportation planning/engineering related studies. Perform signal studies for upgrades to traffic signal improvements to include left turn signals, phasing changes, striping or other changes to lane assignments. Evaluate and effectuate traffic count studies, accident studies, signal timing plans and traffic studies to identify unsafe and congested conditions, and evaluate test data to determine best method of traffic control. Manage and perform Intelligent Transportation Systems (ITS) engineering design and ITS planning studies for short and long range projects. Direct, manage and implement projects designed or constructed by consultants and engineering contractors. Review purchase orders, change orders, plans and specifications prepared by staff, Texas Department of Transportation and consultants for design problems, traffic signal issues such as communications, equipment and intersection design, and compliance to standards. Make recommendations for major changes to plans and specifications, traffic signal modifications and release of Open Records requests. Prepare and manage specifications and upgrades to the Traffic Management Center by integrating new components into the system and purchase of traffic control equipment. Monitor uniformity in the design process and operational aspects of traffic. Direct and perform traffic engineering design and drafting projects for plans and specifications for construction. Review and approve drafting and design work performed by technical and engineering associate personnel. Enforce occupational health and safety rules and regulations. Manage traffic management and computer signal systems. Coordinate all activities in the Traffic Management Center in the event of a major incident or emergency and implement incident management plans. Design and/or direct the design of drafting plans.

Plan, direct, assign, review, supervise and establish traffic signal and control systems including signal timing and related improvements to traffic flow. Involves: Provide safe and efficient movement of people, goods and services through the use of City roadways and signalized arterial networks. Review plans, geometric design, horizontal and vertical curves for sight distance, radius, safety lighting and intersection and roadway alignment. Perform signal-timing analysis using traffic simulation tools and software. Identify equipment failures, troubleshoot and identify problems, monitor traffic conditions and evaluate systems performance. Coordinate work with Texas Department of Transportation and other City departments. Develop, implement and fine-tune traffic signal timing plans for signalized intersections. Expand traffic signal infrastructure to increase traffic mobility. Authorize decisions related to signal system operations (timing, phasing special event schedules, design, specifications and work orders). Set-up mechanical counters (configures and programs machines). Perform manual counts, compute traffic signal timing and identify visual obstructions. Implement proper application and installation of traffic control devices (street signs, markings and roadway lighting) to provide for safe and efficient movement of pedestrians, vehicles and goods through the City.

Assist with administrative duties as assigned. Involves: Prepare Requests for Proposals and administer consultant selection process for the design of assigned capital projects. Prepare a variety of written material, including staff and engineering reports and grant applications for engineering and transportation projects. Prepare project progress status reports. Manage documents, maintain records and prepare reports. Oversee adherence to divisional policies, accepted procedures and guidelines, City, state and federal regulations. Refer to Uniform Traffic Control Devices and Traffic Engineering Studies Manuals, Transportation and Traffic Engineering and Traffic Control Devices Handbook. Investigate and address citizen and officials complaints regarding traffic



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problems, address transportation and roadway issues, signal operations problems, take corrective action, and respond appropriately. Maintain accurate records and files.



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Assist in the preparation and administration of the Division annual operating budget, administer and review funding. Involves: Monitor fiscal expenditures of funds for personnel and materials. Participate in the oversight preparation of plans and specifications for bid proposals for the purchase of traffic signal equipment. Identify and submit traffic signal interconnect projects for different category type funding. Identify required materials and prepare cost estimates, evaluate costs and benefits of services available for plan implementation. Manage and assure equipment deliveries and payments to vendors. Maintain inventory of all system equipment and signal timing records and related operations.

Supervise and direct professional Division staff. Involves: Schedule, assign, instruct, guide and check work. Appraise employee performance and review evaluations by subordinates. Provide for training and development. Enforce personnel rules and regulations, and work behavior standards. Counsel, motivate and maintain harmony. Interview applicants. Recommend hiring, termination, transfers, discipline, merit pay or other employee status changes.

#### ***Knowledge, Skills, and Abilities***

- Application of comprehensive knowledge of engineering principles and practices as they relate to traffic engineering, traffic studies and traffic control equipment and computer systems.
- Application of comprehensive knowledge of Federal, State and local laws, codes and ordinances pertaining to traffic control and engineering. Including but not limited to, Uniform Traffic control devices and Texas traffic laws, city codes, policies, Standard Specifications for Construction of Highways, Streets and Bridges, Highway sign designs, FHWA Regulations, National Electrical Code, ASHTO standards, ITS Standards.
- Application of considerable knowledge of project management, cost estimating, personnel rules and regulations and supervisory techniques.
- Application of considerable knowledge and use of personal computer, computer aided drafting and design (CADD) techniques, geographic information systems (GIS), calculator, testing and measuring instruments, hand tools and stop watch.
- Application of some knowledge of public relations practices.
- Application of some knowledge of record management systems, establishment of policies, budget, and goals and objectives.
- Read and comprehend technical engineering documents, schematics, diagrams, and blueprints.
- Clear concise oral and written communications to effectively respond to complex technical inquiries and complaints.
- Establish and maintain effective working relationships with City officials, consultants, supervisors, coworkers, contractors, regulatory agencies and the general public.



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***Other Job Characteristics***

- None.

***Minimum Qualifications***

Education and Experience: Equivalent to a combination of a Bachelor's degree in engineering, and four (4) years traffic engineering experience.

Licenses and Certificates: Valid Texas Professional Engineer License, or from any state with whom Texas has a reciprocal arrangement, which must be converted to Texas Registration within one (1) year following appointment.